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## THIRD AUXILIARY REQUEST

### Claims

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1. A refrigerant composition which comprises:

(i) pentafluoroethane, 1,1,1,2- or 1,1,2,2-tetrafluoroethane, 1,1-difluoroethane, trifluoromethoxy pentafluoroethane, 1,1,1,2,3,3-heptafluoropropane or 1,1,1,2,2,3,3-heptafluoropropane, or a mixture of two or more thereof, in an amount from 20 to 50% by weight based on the weight of the composition  
 (ii) an unsubstituted hydrocarbon of the formula  $C_nH_m$ , in which n is at least 4 and m is at least  $2n-2$ , other than methyl propane, in an amount from 1 to 4% by weight based on the weight of the composition.

with the remainder, not exceeding 60% by weight based on the weight of the composition, being:

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(iii) pentafluoroethane, trifluoromethoxy difluoromethane or hexafluorocyclopropane, or a mixture of two or more thereof.

2. A composition according to claim 1 wherein component (i) is present in an amount of 50% by weight based on the weight of the composition.

3. A composition according to claim 1 or 2 wherein component (i) is 1,1,1,2-tetrafluoroethane or a mixture of said ethane with pentafluoroethane.

35 4. A refrigerant composition which comprises:-

(i) pentafluoroethane, 1,1,1,2- or 1,1,2,2-tetrafluoroethane, 1,1-difluoroethane, trifluoromethoxy pentafluoroethane, 1,1,1,2,3,3-heptafluoropropane or 1,1,1,2,2,3,3-heptafluoropropane, or a mixture of two or more thereof, in an amount from 50 to 75% by weight based on the weight of the composition  
 (ii) an unsubstituted hydrocarbon of the formula  $C_nH_m$ , in which n is at least 4 and m is at least  $2n-2$ , other than methyl propane, in an amount from 1 to 4% by weight based on the weight of the composition; with the remainder being  
 (iii) pentafluoroethane, trifluoromethoxy difluoromethane or hexafluorocyclopropane, or a mixture of two or more thereof.

45 5. A composition according to claim 4 wherein component (i) is 1,1,1,2-tetrafluoroethane or a mixture of said ethane with pentafluoroethane.

6. A composition according to claim 4 or 5 wherein component (iii) is pentafluoroethane.

50 7. A refrigerant composition which comprises:-

(i) 1,1,1,2- or 1,1,2,2-tetrafluoroethane, or a mixture of pentafluoroethane and 1,1,1,2- or 1,1,2,2-tetrafluoroethane, in an amount from 30 to 94% by weight based on the weight of the composition  
 (ii) an unsubstituted hydrocarbon of the formula  $C_nH_m$ , in which n is at least 4 and m is at least  $2n-2$ , other than methyl propane, in an amount from 1 to 4% by weight based on the weight of the composition,  
 (iii) pentafluoroethane in an amount from 5 to 60% by weight based on the weight of the composition with the proviso that the concentration of pentafluoroethane in the composition is not 5 to 20% by weight based on

~~the weight of the composition~~

## claim 1

~~any one of the preceding claims~~ wherein component (ii) is present in an amount from 2 to 4% by weight based on the weight of the composition.

~~any one of the preceding claims~~ wherein component (ii) is present in an amount from 3 to 4% by weight based on the weight of the composition.

~~any one of the preceding claims~~ wherein component (ii) is a mixture of said hydrocarbons.

~~any one of the preceding claims~~ wherein component (ii) comprises a hydrocarbon which possesses 4 or 5 carbon atoms.

~~any one of the preceding claims~~ wherein component (ii) comprises a hydrocarbon which is n-butane.

A composition according to claim 12 which comprises:

- 46 to 46.5% by weight of pentafluoroethane
- 50 % by weight of 1,1,1,2-tetrafluoroethane and
- 4 to 3.5% by weight, respectively, of n-butane.

Use as a refrigerant of a composition as claimed in any one of claims 1 to 18.

Use according to claim 14 in a refrigeration or airconditioning system designed to use chlorodifluoromethane as refrigerant.

Use of a refrigeration composition which comprises:

- pentafluoroethane, 1,1,1,2- or 1,1,2,2-tetrafluoroethane, 1,1-difluoroethane, 1,1,1,2,3,3,3-heptafluoropropane or 1,1,1,2,2,3,3-heptafluoropropane, or a mixture of two or more thereof, in an amount from 30 to 94% by weight based on the weight of the composition and
- an unsubstituted hydrocarbon of the formula  $C_nH_m$  in which n is at least 4 and m is at least 2n-2, other than methyl propane, in an amount from 1 to 10% by weight based on the weight of the composition, as a replacement for chlorodifluoromethane.
- pentafluoroethane in an amount from 5 to 60% by weight based on the weight of the composition, as a replacement for chlorodifluoromethane.

Use according to claim 16 wherein the composition is as defined in claim 13.

The process for producing refrigeration which comprises evaporating a composition as claimed in any one of claims 1 to 18 in the vicinity of a body to be cooled.

A refrigeration apparatus containing, as refrigerant, a composition as claimed in any one of claims 1 to 18.

A refrigeration apparatus according to claim 18 which is designed to use chlorodifluoromethane as refrigerant.

**THIRD AUXILIARY REQUEST****Claims**

5     1.     A refrigerant composition which comprises:

- (i) 1,1,1,2-tetrafluoroethane, in an amount of 50% by weight based on the weight of the composition,
- (ii) n-butane, in an amount from 1 to 4% by weight based on the weight of the composition,
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- (iii) pentafluoroethane.

2.     A composition according to claim 1 wherein component (ii) is present in an amount from 15     2 to 4% by weight based on the weight of the composition.

3.     A composition according to claim 2 wherein component (ii) is present in an amount from 20     3 to 4% by weight based on the weight of the composition.

4.     A composition according to any one of the preceding claims which comprises:

- (a)     46 to 46.5% by weight of pentafluoroethane,
- (b)     50 % by weight of 1,1,1,2-tetrafluoroethane and
- (c)     4 to 3.5% by weight, respectively, of n-butane.

25     5.     Use as a refrigerant of a composition as claimed in any one of claims 1 to 4.

6.     Use according to claim 5 in a refrigeration or airconditioning system designed to use 30     chlorodifluoromethane as refrigerant.

7.     The process for producing refrigeration which comprises evaporating a composition as

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claimed in any one of claims 1 to 4 in the vicinity of a body to be cooled.

8. A refrigeration apparatus containing, as refrigerant, a composition as claimed in any one of claims 1 to 4.

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9. A refrigeration apparatus according to claim 8 which is designed to use chlorodifluoromethane as refrigerant.